

**REMARKS**

Claims 22-33, and 35-43 are currently pending in the application, of which claims 33 and claim 39 are independent. In view of the following Remarks, Applicants respectfully request reconsideration and timely withdrawal of the pending objections and rejections for the reasons discussed below.

***Rejections Under 35 U.S.C. §102***

Claims 39, and 42-43, stand rejected under 35 U.S.C. §102(b) as being anticipated by U. S. Patent No. 4,430,108 issued to Hojaji, et al. ("Hojaji"). Applicant traverses this rejection and requests reconsideration. As will be discussed below, Hojaji is directed to glass foams and does not disclose, teach or suggest carbon foams.

Claim 39 requires "an insulating core comprising carbon foam." The Office Action states that "Hojaji teaches a carbon foam formed from coal derived ash or fly ash." Applicant disagrees. Hojaji is directed to a glass foam made from diatomaceous earth, fly ash, or mixtures thereof. *See* Hojaji, abstract; col. 3, lines 25-30; col. 4, lines 65-68. These materials do not form a carbon foam. They form glass foams from their respective oxide constituents.

Glass foam from diatomaceous earth does not form carbon foam. As evidence of this, the cited reference itself (Hojaji) states that the predominant constituent of diatomaceous earth is silica (SiO<sub>2</sub>). Hojaji, col. 5, lines 4-9. Further, Hojaji describes the typical chemical compositions for diatomaceous earth in Tables 1 and 2. The primary constituent is silica with several other oxides in minor amounts. Carbon is not listed. Applicants respectfully contend

that “carbon foam” would at least require carbon. As cited above, Hojaji does not contain carbon. Example 1 proves this point. A foam glass was made with diatomaceous earth and the chemical analysis showed predominantly SiO<sub>2</sub> with other oxides in minor amounts. No carbon. Accordingly, glass foam formed from diatomaceous earth cannot be considered to be carbon foam.

The Examiner has contended that “carbon foam” is not defined in the specification therefore “carbon foam” is given its broadest reasonable interpretation. However the Examiner has not suggested a broadest reasonable interpretation for carbon foam. By interpreting “carbon foam” to include the glass foams of Hojaji, which do not contain carbon, requires that the Examiner ignore the word “carbon” which is modifying the term “foam.” Carbon foam is not a term that has been arbitrarily made up by the Applicants nor are the Applicants using the term contrary to what the words simply say a “carbon foam.” While Applicants maintain that the term “carbon foam” is a foam made of carbon and thus would require carbon as part of the foam, Applicants have provided an ASTM definition for carbon foam indicating that carbon foam is indeed a foam made of carbon.

Since Hojaji describes glass foams and not carbon foam, Applicant respectfully submits that Hojaji does not provided an insulating core comprising carbon foam as required by claim 39. Accordingly Applicant submits that claim 39 and all the claims that depend therefrom including claims 42-43 are not anticipated by Hojaji.

***Rejections Under 35 U.S.C. §103***

Claims 22-43 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S Patent No. 5,125,992 issued to Hubbard, et al., (“Hubbard”) in view of Hojaji. Applicants respectfully traverse this rejection and request reconsideration.

Claims 33 and 39 each require “an insulating core comprising carbon foam.” The Office Action states that “Hojaji teach a carbon foam formed from coal derived ash or fly ash” and “it would be obvious to one of ordinary skill in the art at the time of the invention to provide the foam of Hojaji as a substitute for the foam of Hubbard because both invention want heat resistance, high strength, and chemical resistance and the glassy foam has advantages over polystyrene and polyurethanes (taught by Hubbard) in that they are structurally stronger and more heat resistant.” Applicant respectfully requests reconsideration of this position and strongly contends that Hojaji does not disclose or teach a carbon foam. As discussed above, Hojaji describes and teaches glassy foams made from diatomaceous earth, fly ash, or combinations thereof. These materials are foamed oxides and not foamed carbon. Accordingly, the glassy foams described in Hojaji are not carbon foams. The arguments and positions with respect to the term “carbon foam” are incorporated here. Carbon foam requires carbon, Hojaji is not a foam made of carbon. ASTM definition for “carbon foam” makes clear that carbon foam is a foam made of carbon. Therefore the combination of Hubbard in view of Hojaji as stated in the Office Action would substitute the glass foams made of oxides with the polystyrene and polyurethane foams taught in Hubbard. This combination still fails to provide all the elements of claims 33 and 39. In particular, this combination fails to provide an insulating core comprising carbon foam.

Further, regarding claim 25, the Office Action states that “the carbon foam [of Hojaji] is calcined (or carbonized).” Office Action, paragraph 18. This emphasizes that glass foams made of oxide materials of Hojaji are significantly different from carbon foams. Accordingly to Hojaji, calcination or carbonization for the glass foams is conducted in an oxidizing atmosphere at temperatures of at least about 500°C. Hojaji, col. 3, lines 30-35. If Hojaji were a carbon foam, in the presence of high heat and oxygen or an oxidizing atmosphere, the carbon foam material would severely degrade and possibly burn, destroying the carbon foam material. In contrast, carbonization or calcination of carbon foam is described in the present application at page 14, lines 1-9. In this portion of the specification it describes that carbon foam is calcined or carbonized using an inert gas. Accordingly, the glass foams made of oxide materials in Hojaji are not considered carbon foams.

Since the combination of Hubbard in view of Hojaji fails to provide an insulating core comprising carbon foam as required by claims 33 and 36, Applicant submits that for at least this reason claims 33 and 36 and all the claims that depend therefrom are not obvious over the combination of Hubbard in view of Hojaji.

### ***Extension of Time***

A Petition for a three (3)-month extension of time under 37 C.F.R. §1.136(a) is filed herewith. It is not believed that any further extensions of time are required other than those in the accompanying Petition. If extensions of time are necessary to prevent abandonment of this application, then such extensions of time are hereby petitioned for under 37 C.F.R. §1.136(a). Applicants believe that further fees for net addition of claims are required at this time. Any fees

required for extensions of time and any fees for the net addition of claims are hereby authorized to be charged to Deposit Account No. 50331.

***Conclusion***

Applicant believes that a full and complete response has been made to the pending Office Action and respectfully submits that all of the stated objections and grounds for rejection have been overcome or rendered moot. Should the Examiner feel that there are any issues outstanding after consideration of this Reply the Examiner is invited to contact the Applicant's undersigned representative at the number below to expedite prosecution.

Respectfully submitted,



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